

REMARKS/ARGUMENTS

In the specification, several paragraphs and sentences have been amended to correct minor editorial problems. Several of the Examiner's objections to the drawing have been address by make appropriate corrections in the specification. Specifically, these corrections include amendment to the sentence that begins on page 9, line 20 in which the outlet opening has been given a reference numeral, therefore the location of the outlet opening in the drawings should now be clear.

The phrase "seal area being implemented as one inlet, one outlet and one seal area," has been canceled from claim 5.

The feature of "a second and third axes of rotation," is addressed in amendments to the specification in the sentence that begins on page 10, line 6.

The feature of an injector is addressed by cancellation of claims 15 and 16.

The objection to "areas 42," is addressed in amendments to the sentence that begins on page 9, line 5.

The phrase "the seat" is addressed in amendments to the sentence that begins on page 13, line 11. However, the Applicant is unsure why this parenthetical reference to a Farris Wheel should require support in the drawings. Therefore, no amendment to the drawings has been made in regard to this issue.

In amended Figure 1, previously mislabeled element 42 has been correctly labeled and the line to element 2 has been changed to better show its location. In Fig. 4 previously mislabeled element 250 has been correctly labeled. In Fig. 5 previously omitted element numerals 220 and 222 have been added. Fig. 3 has been canceled. New Fig. 1a, which is an opaque version of the transparent exploded view of original Fig. 1 and is therefore number accordingly, has been added.

Claims 1-16 remain in this application. Claims 4, 15 and 16 are herein canceled. New claim 17 has been added. The Examiner has rejected claims 1,2, 15 and 16 under U.S.C. 102(b) as being anticipated by Ballinger (US 4741308), and claims 3 and 4 under U.S.C. 103(A) as being unpatentable over Ballinger in view of Mason (US 473940). The examiner has acknowledged that claims 5 -15 are directed to allowable subject matter. The Examiner has rejected claim 4 under 35 U.S.C. 112, second paragraph.

New claim 17 has been added to emphasize a feature of the second preferred embodiment of the present invention, support for this amendment may be found on page 12, lines 5-9.

§ 112, Second Paragraph Rejections

The Examiner has rejected claim 4 under § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention.

Claim 4 has now been canceled.

§ 102(b) and § 103(a) Rejections

The Examiner has rejected claims 1,2, 15 and 16 under U.S.C. 102(b) as being anticipated by Ballinger (US 4741308), and claims 3 and 4 under U.S.C. 103(A) as being unpatentable over Ballinger in view of Mason (US 473940). The Examiner's assertion in respectfully traversed.

The Applicant respectfully points out that the devices of both Ballinger and Mason, each include a rotor that rotates within a single stator housing. Further, the piston elements of both of these devices create a seal by maintaining contact with the stator at one side and the rotor at the other side. There is neither hint nor suggestion

that the rotor pass between two stator portions. Nor do either Ballinger or Mason hint or suggest a seal region be created by having a portion of each of the stator portions contact the sides of the rotor, or piston, passing between them. Nor is there hint or suggestion in either device that the sides of the piston elements be in contact with the walls of both of the stator portions closing the toroidal chamber throughout the rotational path, such that a volume is defined by the seal area the walls of the two stator portions and the piston element.

This is in clear contrast to the teachings of the present invention, which clearly teaches on page 9, lines 4-12;

“There are therefore, areas 42 and 40 where the surfaces of the stator housing shell halves 11 and 12 contact the surface of the rotor and/or the piston, thereby creating a seal region or barrier through which any fluids held in the modified toroidal operational volume can not pass. Throughout the rotational path, the sides of the piston elements 2 and 4 are in contact with the walls of the stator closing the toroidal chamber. Thus a volume is defined by the seal area the walls of the toroidal chamber and a piston element. The first piston element passes through the seal area and into the open region of the toroidal chamber.” (text as per amendments herein, emphasis added)

and on page 11, lines 5-9;

“Therefore, at seal region 264 the rotor is rotated to an orientation such that the piston element lies substantially inside the rotor. In this area both the inner and outer stators come in contact with the rotor, and/or piston element as it passes through the area, thereby creating a seal or barrier through which fluids are unable to pass.” (text as per amendments herein, emphasis added)

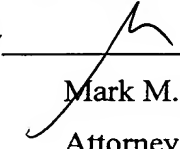
and on page 11, lines 15-18;

“Throughout the rotational path, the sides of the piston elements 204 and 206 are in contact with the walls of both the inner 242 and outer 244 stators closing the toroidal chamber. Thus a volume is defined by the seal area the walls of the inner 242 and outer 244 stators and a piston element.” (emphasis added)

While continuing to traverse the Examiner's rejections, the Applicant has, in order to expedite the prosecution, chosen to amend claim 1 so as to emphasize the distinguishing features of the present invention over the cited prior art. Claim 1 now contains language that clearly states that the rotor is at least partially deployed within the modified toroidal operational volume, and that the rotor and the piston element pass between the first and second stator portions.

Amended independent claim 1 now features language which makes it absolutely clear that the device of the present invention is structurally different from the cited prior art. The Applicant believes that the amendment of the claims completely overcomes the Examiner's rejections on § 102(b) and § 103(a) grounds.

In view of the above amendments and remarks it is respectfully submitted that independent claim 1, and hence dependent claims 2, 3, 5-14 and 17, are in condition for allowance. Therefore, the Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,
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Replacement Sheets

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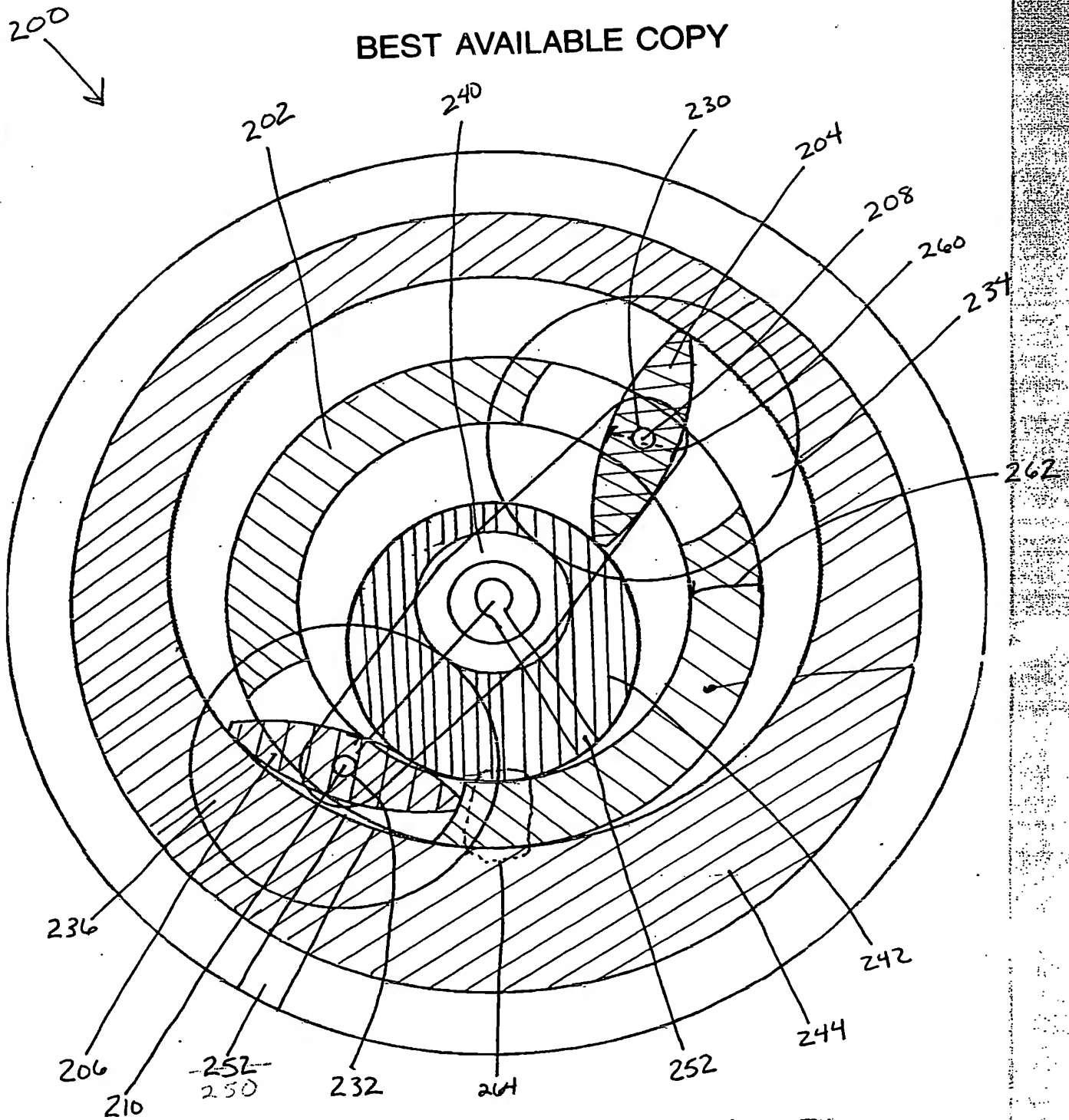
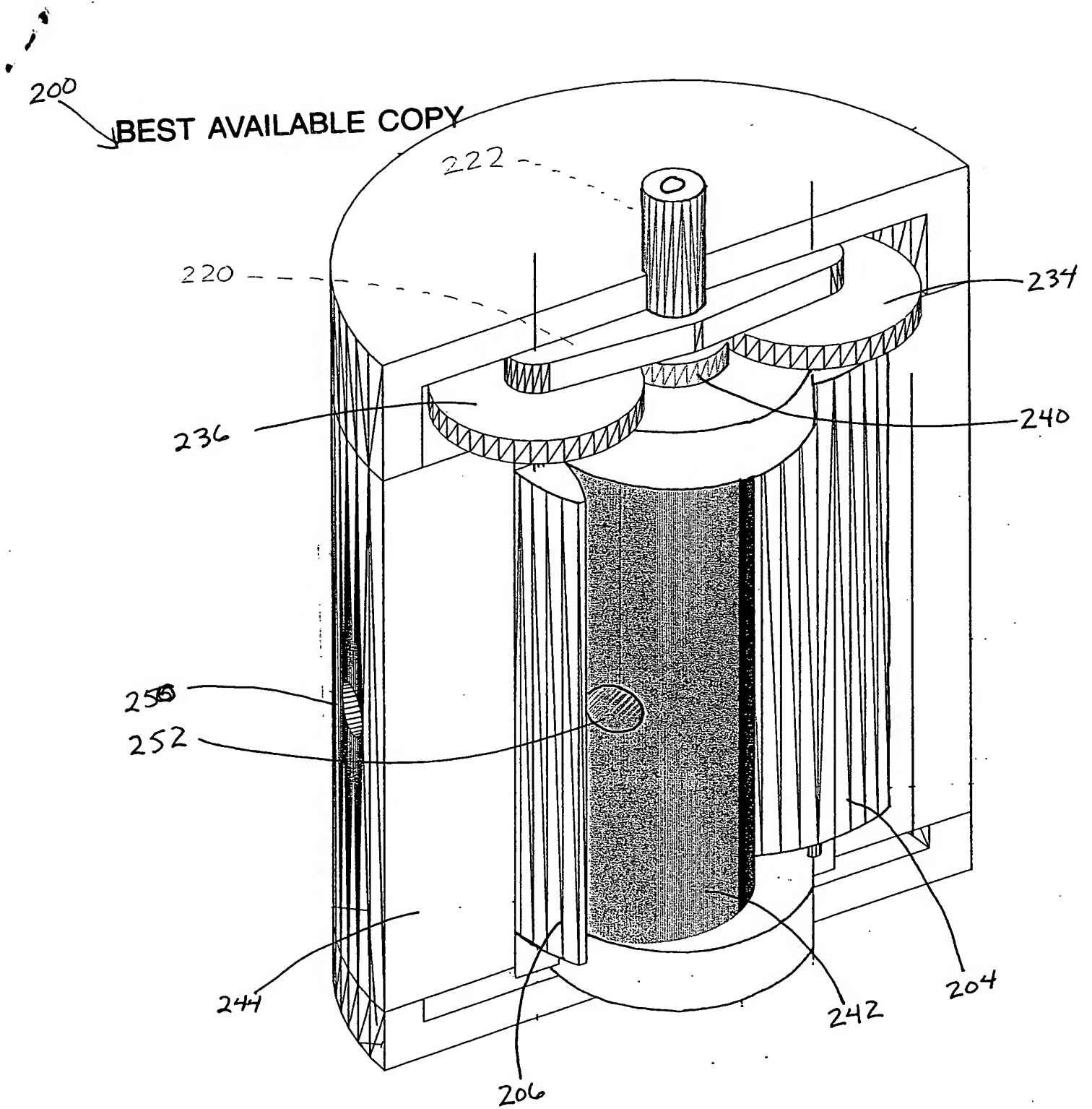


FIG. 4



F16.5